

CLAIMS

1. Use of a foam prepared with an aqueous solution which comprises, per litre of solution:
 - 5 - 0.2 to 2% by weight of a foaming organic surface-active agent or of a mixture of foaming surface-active agents,
 - from 0.1 to 1.5% by weight of gelling agent and, optionally,
 - 0.2 to 7 mol of an inorganic acid or base for radioactive decontamination or of a mixture of inorganic acids or bases for radioactive decontamination,
- 10 in a process for the radioactive decontamination of a surface.
2. Use according to Claim 1, in which the surface-active agent is a foaming nonionic surfactant.
- 15 3. Use according to Claim 1, in which the surface-active agent is a foaming nonionic surfactant chosen from the family of the alkylpolyglucosides or alkylpolyetherglucosides.
4. Use according to Claim 1, in which the surface-active agent is an
- 20 amphoteric surfactant.
5. Use according to Claim 1, in which the surface-active agent is an amphoteric surfactant chosen from the family of the sulphobetaines, from the family of the alkyl amidopropyl hydroxysulphobetaines or from the family of the
- 25 amine oxides.
6. Use according to Claim 1, in which the acid is chosen from the group consisting of hydrochloric acid, nitric acid, sulphuric acid, phosphoric acid and oxalic acid or is a mixture of acids from this group.
- 30 7. Use according to Claim 1, in which the acid is in an amount of 0.3 to 7 mol.
8. Use according to Claim 1, in which the acid is in an amount of 1 to 4 mol.

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9. Use according to Claim 1, in which the base is chosen from the group consisting of sodium hydroxide, potassium hydroxide and sodium carbonate or is a mixture of bases from this group.
- 5 10. Use according to Claim 1, in which the base is in an amount of less than 2 mol.
11. Use according to Claim 1, in which the base is in an amount of 0.5 to 1.5 mol.
- 10 12. Use according to Claim 1, in which the gelling agent is an organic thickening agent exhibiting a rheological behaviour of pseudoplastic type.
- 15 13. Use according to Claim 1, in which the gelling agent is chosen from the group consisting of a water-soluble polymer, a hydrocolloid and a heteropolysaccharide or from the group consisting of cellulose derivatives.
- 20 14. Use according to Claim 1, in which the gelling agent is chosen from the group consisting of heteropolysaccharides chosen from the family of the polyglucoside polymers comprising trisaccharide branched chains; and cellulose derivatives, such as carboxymethylcellulose or a polysaccharide comprising glucose as sole monomer.
- 25 15. Use according to Claim 1, in which the gelling agent is xanthan gum.
16. Use according to Claim 1, in which the surface to be decontaminated is brought into contact with the foam for 1 to 10 hours.
- 30 17. Use according to Claim 16, additionally comprising, after the operation of bringing the surface to be decontaminated into contact with the foam, rinsing the said surface using a rinsing solution.